

STRUCTURE, MATERIAL, AND DESIGN FOR ASSEMBLING A LOW-K Si DIE TO ACHIEVE AN INDUSTRIAL GRADE RELIABILITY WIRE BONDING PACKAGE

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ABSTRACT OF THE DISCLOSURE

Provided are semiconductor low-K Si die wire bonding packages with package stress control and fabrication methods for such packages. The packages include molding interface material applied onto the low-K Si die. In general, the molding interface material is selectively applied onto the low-K Si die surface in order to 10 minimize to safe levels the package stress experienced by the low-K Si die. Selective application includes defining various combinatorial patterns of coated and non-coated regions. In addition, selective application may also include a general application of molding interface material to create a stress buffer zone. The results are packages with less stress experienced by the low-K Si die and so improved reliability (in 15 compliance with industry specifications).